

# The Prevalence and Nature of Unrequited Love

SAGE Open  
April-June 2013: 1–15  
© The Author(s) 2013  
DOI: 10.1177/2158244013492160  
sgo.sagepub.com  


Robert G. Bringle<sup>1,2</sup>, Terri Winnick<sup>2,3</sup> and Robert J. Rydell<sup>4</sup>

## Abstract

Unrequited love (UL) is unreciprocated love that causes yearning for more complete love. Five types of UL are delineated and conceptualized on a continuum from lower to greater levels of interdependence: crush on someone unavailable, crush on someone nearby, pursuing a love object, longing for a past lover, and an unequal love relationship. Study 1a found all types of UL relationships to be less emotionally intense than equal love and 4 times more frequent than equal love during a 2-year period. Study 1b found little evidence for limerent qualities of UL. Study 2 found all types of UL to be less intense than equal love on passion, sacrifice, dependency, commitment, and practical love, but more intense than equal love on turmoil. These results suggest that UL is not a good simulation of true romantic love, but an inferior approximation of that ideal.

## Keywords

unrequited love, interdependence, love, friendship

Although virtually all aspire to consummate romantic love, the path toward achieving the ideal love relationship is littered with relationships that are incomplete approximations. Many of these are discarded, whereas some relationships are maintained in spite of their imperfections. The prototype of consummate romantic love is that it will be reciprocal, fulfilling, and enduring (e.g., Aron & Aron, 1986, 1996) and trusting, caring, and intimate (Fehr, 2006). Unrequited love (UL) occurs when differences in the aspirations or the experiences of love result in a yearning for more complete love by one of the individuals in the relationship. The experience of UL may be an ephemeral mood state, a developmental stage in a relationship, idiosyncratic to the combination of two individuals, or the result of a stable attribute (e.g., anxious/ambivalent attachment; Aron, Aron, & Allen, 1998). UL has been found to be more prevalent among individuals who reported an anxious/ambivalent attachment style (Aron et al., 1998) and who were low on defensiveness (K. K. Dion & Dion, 1975). This research is focused on evaluating the question of whether or not UL is a type of romantic love and the ways in which UL aligns with the attributes of romantic love.

## Types of UL

Baumeister, Wotman, and Stillwell (1993) described several ways in which UL can develop (e.g., growing out of friendship, loving from afar) and Aron and Aron (1991) described three types of UL (secret, jilted, hanger on). We conceptualized UL as occurring in different kinds of relationships that are assumed to be located on a continuum of interdependence (e.g., Kelley et al., 1983; Kelley et al., 2003; see also

Baumeister et al., 1993). Interdependence encompasses influence, behavioral control, and the frequency, diversity, and length of interaction (Berscheid, Snyder, & Omoto, 2004). Berscheid and Ammazalorso (2001) posited that increasing interdependency creates stronger, more numerous, and more consequential expectations that, when violated, produce stronger emotional reactions. An extreme example of a relationship with low interdependence is an imaginary lover. A love relationship that is equal in exchanges encompasses high levels of interdependence (e.g., Kelley et al., 1983; Kelley et al., 2003). This continuum of presumed interdependence organizes the following types of UL relationships.

### *Crush on Someone Who Is Unavailable*

Someone can have a crush on a love object who exists, but who is seldom proximal (e.g., a rock star, a movie star). The person has little or no chance of forming an equal, reciprocal relationship because the love object is unavailable. There are often large disparities between the two persons in their desirability and the desirability of their alternatives, decreasing

<sup>1</sup>Appalachian State University, Boone, NC, USA

<sup>2</sup>Indiana University–Purdue University Indianapolis, USA

<sup>3</sup>Ohio State University, Mansfield, USA

<sup>4</sup>Indiana University, Bloomington, USA

#### Corresponding Author:

Robert G. Bringle, Department of Psychology, Appalachian State University, 222 Joyce Lawrence Lane, Boone, NC 28608, USA.  
Email: bringlerg@appstate.edu

the prospect of a reciprocal, romantic relationship (Berscheid & Reis, 1998). Furthermore, relationships that might form are superficial, asymmetrical, and incomplete (e.g., talking at an autograph session, a one-night sexual relationship). Thus, the love object is more accessible to, more important to, and exercises more behavioral control over the enamored than vice versa. However, there is interdependence. As Ferris (2001) documented, fans collect information about their paramours, experience emotions when good and bad events occur in the paramour's life, alter their behavior to be near the paramour (e.g., go to concerts) (Spitzberg & Cupach, 2007). Furthermore, the star's behavior can be influenced by fans (e.g., changing behavior to appeal to them).

### *Crush on Someone Nearby Without Initiating a Romantic Relationship*

Some potential romantic partners may be physically nearby. Awareness may be unilateral or mutual (Levinger & Snoek, 1972). Because of the person's proximity, interdependence can be greater than that for the previous type. The presence of the love object may influence the enamored person's behavior (e.g., attempts at contact are made). There can be interaction, which may be perfunctory and contain no disclosure of romantic interests, or the relationship may develop into a friendship without clear revelation of romantic interests (Baumeister & Wotman, 1992).

### *Pursuing the Love Object*

At some point, the enamored may decide to initiate a romantic relationship, either through somewhat passive routes (increasing contact, ambiguous statements), or more active communication of romantic interests (asking for a date). The intentions may or may not be accurately perceived by the love object (Baumeister & Wotman, 1992), resulting in varying degrees of emotions and differences in expectations for the future of the romantic relationship (Arriaga, 2001).

The attraction can be rather sudden (which Shaver, Morgan, & Wu, 1996, describe as a love surge) and the "love struck" person assumes the task of communicating romantic intentions, eliciting reciprocation, and initiating a romantic relationship (Baumeister & Wotman, 1992). Alternatively, unilateral romantic inclinations can develop within the context of a friendship. In either case, the fate of the relationship likely depends on many factors (e.g., clear communication, availability of the prospective partner). Barelds and Barelds-Dijkstra (2007) found that partners who "fell in love at first sight" had more dissimilar personalities than those who fell in love more gradually. In addition, differences in desirable qualities may result in the person "falling upward" (i.e., attempting to initiate a relationship with someone of greater

overall desirability) to be thwarted by the more desirable person (Baumeister & Wotman, 1992). Thus, one consequence of expressed romantic interests may be that they are either initially or regularly rejected. However, the UL relationship may blend into the courtship process in which the couple pursues a romantic relationship (Cate & Lloyd, 1992).

### *Longing for a Past Lover*

Dissolution of a relationship is often not mutual (Davis, Ace, & Andra, 2002; Hill, Rubin, & Peplau, 1976). In contrast to those who leave a dating partner, those who are committed to a deteriorating relationship continue to invest in the relationship, find the relationship satisfying, devalue alternative relationships, stalk, and profess commitment after the relationship dissolves (Meloy & Fisher, 2005; Rusbult, 1983). Because there once was a relationship, there was a rather high level of interdependence, including familiarity with and knowledge of the love object. Thus, individuals who are left by a lover can harbor lingering feelings of attraction for their past lover, longing for the resumption of the relationship (Baumeister & Wotman, 1992; Sprecher, Felmlee, Metts, Fehr, & Vanni, 1998; Wegner & Gold, 1995). "Frustration attraction" may have a biological basis that explains why rejection produces more passion (Fisher, 2004), and attempts to reestablish the relationship can intensify into stalking (Davis et al., 2002).

### *Unequal Love Relationship*

Once a romantic relationship has been initiated, there may be differences in the intensity of love, in the nature of the love experienced by the two individuals, or differences in the expectations about the pace of relationship development. *Quantitative asymmetry* refers to differences in the intensity of the love experienced or differences in the various dimensions of intensity, such as onset latency, duration, action readiness, and overall intensity (Arriaga, 2001; Frijda, Ortony, Sonnemans, & Clore, 1992).

*Qualitative asymmetry* occurs when two individuals obtain different types of outcomes from a relationship. Love can involve numerous distinct qualities, such as passion, intimacy, and commitment (Sternberg, 1986); attachment, caregiving, and sexuality (Shaver & Hazan, 1988; Shaver & Mikulincer, 2006; Shaver, Morgan, & Wu, 1996); passionate and companionate love (Berscheid & Walster, 1978); caring and needing (Kelley et al., 1983); and mixes of eros, ludus, and storge (C. Hendrick & Hendrick, 2006; Lee, 1973, 1988). An imbalance can occur in any of these qualitative aspects of love. For example, a lover can be dissatisfied because high passion and low commitment are experienced and desired from the partner, but the partner experiences and seeks low passion and high commitment (Regan, 1998).

## Study 1a

Baumeister et al. (1993) reported the prevalence of three types of quantitatively differentiated UL experiences: a casual attraction; a moderate attraction; and a powerful, intense, and serious attraction. During a 5-year span, college respondents reported 1.07 “powerful,” 1.86 “moderate,” and 3.66 “casual” instances of UL. Their definition of UL was, “you have been attracted to another person, but that other person did not feel an equal attraction to you” (Baumeister et al., 1993, p. 386). This description could encompass all five types of UL relationships described earlier, with the possible exception of a crush on an unavailable love object. Hill, Blakemore, and Drumm (1997) studied mostly young adults ( $M$  age = 23 years) and found that the frequency of UL was significantly higher for males (3.06) than the frequency of mutual love in males (2.26), and higher than UL for females (1.62, which was significantly lower than mutual love for females: 2.50).

Study 1a sought descriptive information about the prevalence of UL by measuring the frequency and intensity of the five types of UL relationships and equal, reciprocated love. Because UL is an “easy” kind of love (low investment, low interdependence; Baumeister et al., 1993), UL was expected to be more frequent than equal love. Because equal love is emotionally fulfilling love (Aron & Aron, 1986), and because Berscheid and Ammazalorso (2001) predicted more intense emotional responses for more interdependent relationships, the general intensity of the emotional experience for equal love was hypothesized to be greater than that for UL and to be greater for types of UL with presumed higher interdependency.

## Method

**Participants.** Respondents were 153 high school students (60 males, 93 females) and 165 university students (54 males, 111 females), aged 14 to 63 years ( $M = 21.1$ ,  $SD = 9.42$ ). University students were given extra credit in a psychology course for their participation.

**Questionnaire.** The questionnaire presented descriptions of six different types of love relationships:

1. A huge “*crush*” on someone you do not know personally, nor ever really expect to know, like a movie star, rock star, or athlete.
2. A huge crush on someone you know, but for one reason or another you have not let that person know of your feelings for him or her.
3. A relationship in which you are (were) actually pursuing the person you are (were) in love with, but so far have been unsuccessful in winning that person’s love in return.
4. A love relationship that has ended for whatever reason, but one in which you still long for that partner although there is no prospect of reuniting.
5. A love relationship in which you are (were) currently involved romantically, but one in which you feel that you love the partner more, were more committed to, and put more effort into the relationship than did your partner.
6. A love relationship involving an *equal love*—relationships in which you are (or were) in love with someone who loves (or loved) you just as much in return.

Respondent were asked to consider instances of love in the last 2 years. A period of 2 years was selected because high school students were included in the sample and a longer time frame might have included years during which they had little interest in romantic relationships. Respondents were asked to indicate all instances of each type of love relationship by writing the initials of the love object. For each relationship listed, they were asked to indicate the age at which the relationship began, the length of time that the relationship lasted, whether it was a current relationship, and the intensity of the feelings that they had for the love object on a scale ranging from 1 (*no feelings*) to 7 (*extremely intense feelings*).

## Results

Two indices of frequency were examined: whether the respondent reported any occurrence of a type of relationship and the number of instances of each type of relationship (see Table 1). Equal romantic love was experienced by 70% of the sample during the past 2 years; respondents reported pursuing a relationship with someone for whom they had romantic thoughts or feelings less frequently than they had those feelings; and instances of all types of UL were over 4 times more prevalent than equal love.

Due to the statistical interdependence of different types of love (i.e., one participant could report on several different types of love relationships or more than one instance of the same type of love relationship), it was not possible to conduct statistical analyses that assume either independent or dependent observations. Therefore, a comparison of types of relationships on intensity was conducted by computing a  $z$  score for the mean intensity score for each UL group by using the mean ( $M = 6.362$ ) and standard deviation (.064) of the equal love group (see Table 2). This method of analysis provides a way to compare each type of UL with equal love (e.g., the absolute value of the average  $z$  scores is an indicator of the magnitude of difference), avoids the problems of missing data and unequal occurrences of different types of love relationships, and makes the results more readily interpretable (J. Cohen & Cohen, 1975). Respondents reported significantly lower intensity for each type of UL relationship ( $z > 1.96$ ), and the average intensity across all types of UL was significantly lower than equal love.

**Table 1.** Descriptive Statistics for Each Type of Relationship in Study 1a.

	Percentage indicating at least one instance	Average frequency per respondent
Star	48	0.88
Nearby	63	1.19
Pursue	36	0.51
Long for	40	0.51
Unequal	57	0.73
At least one type of unrequited love	88	
All types of unrequited love		3.82
Equal	70	0.84
At least one instance of all types	97	
All types of love		4.66

**Table 2.** Intensity and Duration for Each Type of Relationship in Study 1a.

	Intensity	z score	Duration	z score
Star	4.90	-22.84**	16.25	-1.65
Nearby	5.15	-18.94**	12.06	-3.00**
Pursued	5.54	-12.75**	10.12	-3.63**
Long for	6.12	-3.86**	18.44	-0.94
Unequal	6.04	-5.03**	17.41	-1.27
All types of unrequited love	5.50	-13.98**	15.41	-1.92
Equal	6.36		21.33	

Note. The z scores show the degree of difference between equal love relationships and the type of unrequited love relationship represented in each row. \*\* $p < .01$ .

A similar analysis was conducted for duration. On the questionnaire, respondents indicated if a relationship were current and these relationships were excluded from this analysis of duration because they had not been terminated. Approximately one third of the respondents reported an ongoing equal love relationship (.33), whereas the average number of ongoing UL relationships per respondent was lower (star = .16, nearby = .20, pursue = .06, unequal = .12, long for = .04). However, the cumulative frequency of all ongoing UL relationships (.59) was greater than equal love. For those relationships that had ended, loving someone nearby and pursuing someone were of shorter duration than equal love (Table 2). A terminated relationship may have started before the 2-year period; therefore, the relationship duration could exceed 24 months. The other types of UL relationships, and UL in general, were not markedly different in duration from equal love.

## Discussion

Study 1a assessed the prevalence and intensity of five different types of UL and equal love occurring during a 2-year period. Baumeister et al. (1993) found that 1.32 instances of three intensities of UL per year were reported and Hill et al. (1997) found 0.47 instances of UL per year were reported for

the 16- to 20-year age group. The current research found a greater number of instances (1.91 reported instances of all types of UL per year) than both of these studies. The higher number in the current research may have resulted from the multiple, specific prompts given to respondents for the different types of UL relationships. Nonetheless, the conclusion from all three studies is that UL is common among young adults.

In addition, UL was over 4 times more frequent than equal love, which is very different from Hill et al.'s (1997) study, in which the frequencies of UL and mutual love were similar for the 16- to 20-year age group. Hill et al. (1997) also reported the highest frequency of UL for the 16- to 20-year age group. One explanation for the higher frequency in the current research is that equal love is more enduring than UL. This is the case in general and, specifically, for two types of UL (nearby lover and pursued lover). Duration was analyzed only for those relationships that had terminated, which may disproportionately exclude equal love relationships. However, the frequency of all ongoing UL relationships exceeded ongoing equal love relationships. The higher frequency of UL relationships, then, is partially accounted for by their shorter duration, but is not attributable to differential inclusion in the analyses of duration.

Another factor that contributes to the higher frequency of UL is that multiple instances were reported. Only 1 participant out of 104 reported two simultaneous, ongoing equal love relationships. But equal love does not preclude the experience of UL. Just more than 25% ( $n = 29$ ) of those currently in equal love relationships also reported that they were experiencing some form of UL. In addition, 33 participants reported multiple ongoing UL relationships. Thus, UL relationships were more prevalent than equal love relationships because they coexisted with other types of love relationships during the sampled time frame.

As hypothesized, forms of UL that are presumed to be less interdependent were more common. Consistent with Berscheid and Ammazalorso's (2001) theory, the pattern of  $z$  scores supports the ordering of types of UL relationships from highly interdependent to less interdependent because those that are presumed to be more interdependent yielded more intense emotions and were closer approximations to equal love. In addition, UL, in terms of general emotional responses, was less intense than equal love. This is consistent with psychological theories of love that posit an emotionally rich prototype of consummate love (e.g., Aron & Aron, 1986). However, this finding is inconsistent with conjectures that emphasize how fantasy can feed UL (Berscheid & Walster, 1978; Murray, Holmes, & Griffin, 1996; Tennov, 1979), and how reality constraints can reduce the emotions experienced in an actual relationship (Murray et al., 1996; Tesser & Paulus, 1976).

## Study 1b

Researchers typically define love in terms of the essential characteristics of consummate romantic love (e.g., Aron & Aron, 1986; Berscheid & Meyers, 1996; Fehr, 2006; Rubin, 1973; Shaver et al., 1996), not necessarily including those qualities that may be typical of actual romantic relationships that fall short of the ideal, prototype (Fehr, 1988), or paradigm (Davis & Todd, 1982). Fehr's (1994) research illustrates the variety of attributes that can be associated with as many as 15 types of love, not all of which are measured adequately in romantic love scales.

Furthermore, there may be an important conceptual distinction between theories and descriptions of "love" and theories and descriptions of "falling in love" (Aron, Dutton, Aron, & Iverson, 1989; Berscheid & Meyers, 1996; Lamm & Wiesmann, 1997), with the latter being more germane to experiences of UL. For example, Aron et al. (1989) found that accounts of falling in love failed to reflect some of the qualities (arousal, perceived similarity) that are central to typical conceptualizations of love.

Tennov's (1979) discussion of limerence identifies several qualities that are not well captured in extant measures of love and that are posited to be components of UL (see also Baumeister et al., 1993; Baumeister & Wotman, 1992). For example, her characterization of limerence details an

obsessive quality of intrusive thoughts about the love object. However, there are divergent views in the literature concerning how obsessiveness might be related to UL versus equal love and how it might be related to the five types of UL in this research. For example, Brehm (1992) speculated that obsessiveness will be more likely when a person has little real information about the love object. Thus, UL relationships should possess greater obsessiveness than equal love relationships and less interdependent types of UL should show greater obsessiveness than more interdependent types. However, Tesser and Paulus (1976) found positive associations between thoughts about the love object, contact with the love object (dating), and reports of love. This would lead to the expectation of greater obsessiveness in more interdependent types of love relationships.

A second characteristic of limerence is idealizing or glorifying the love object. As Money (1980) noted, "the person projects onto the partner an idealized and highly idiosyncratic image that diverges from the image of that partner as perceived by other people" (p. 65). Gaining information about the love object that conflicts with idealized expectations should produce decreased idealization of the love object (Murray et al., 1996; Tesser & Paulus, 1976). Although Tesser and Paulus found little evidence that these reality constraints reduced love, this line of reasoning predicts that UL relationships would exhibit greater idealization than equal love relationships, and less interdependent types of UL relationships would exhibit more idealization than more interdependent ones.

One quality about which the lover can idealize is the perceived similarity between the self and the love object. In interpersonal attraction research (e.g., Byrne, 1971), similarity is a relatively powerful determinant of attraction. Montoya, Horton, and Kirchner (2008) found in a meta-analysis of research that perceived similarity was a significant correlate of attraction across a wide range of relationship types (e.g., limited interactions, short-term relationships, existing relationships) and a better predictor of attraction than actual similarity. Distortions of perceived similarity could be easiest when there is scant information about the love object. In the absence of accurate information conveyed through firsthand experience and prolonged interactions, the person loving from afar should be able to imagine that the love object constitutes a perfect match. Therefore, UL (vs. equal love) could be fueled by the perception of exaggerated similarity and less interdependent types of UL relationships would be most susceptible to this effect. The perceived knowledge of the love object was predicted to show similar results.

Baumeister et al. (1993) found that about half of their enamored respondents reported diminished self-esteem and feelings of inferiority as a result of their plight. Fiske and Peterson (1991) found a positive association between depression and UL. Furthermore, Smith and Hokland (1988) found that greater depression and anxiety, and lower self-confidence

and well-being were more characteristic of UL relationships than equal love relationships (see also Murray, Holmes, Griffin, Bellavia, & Rose, 2001). Therefore, feelings of inferiority were expected to be greater for UL than equal love, but the more interdependent types were expected to engender greater feelings of inferiority (vs. the less interdependent types) due to the greater sense of rejection and lack of fulfillment inherent in them.

## Method

**Participants.** Respondents were 239 high school students (104 males, 135 females) and 165 university students (54 males, 111 females), aged 13 to 63 years ( $M = 20.2$ ,  $SD = 6.36$ ). University students were given extra credit in a psychology course for their participation.<sup>1</sup>

**Questionnaire.** Some items for the questionnaire were selected from existing scales to represent the following domains: commitment, idealization of the love object, obsessive thoughts for the love object, ambivalent feelings for the love object (e.g., inferiority, rejection), perceived similarity of the love object, and presumed knowledge of the love object.<sup>2</sup>

**Procedures.** Questionnaires provided a description of one of the six types of love relationships (the five types of UL and equal love) and were randomly distributed to respondents. Respondents were asked whether they were currently experiencing that type of love relationship. If yes, they completed the questionnaire referring to that relationship. If not, they were asked whether they had experienced that type of love relationship within the past 2 years. If yes, they were instructed to choose the most intense example of that type of relationship that had occurred in the past 2 years and complete the questionnaire referring to that relationship. If not, they were instructed to contact the researcher, who gave them another questionnaire with a different type of love relationship. This procedure was continued until the respondent could complete a questionnaire.

## Results

The following frequencies were obtained for the types of love relationships: crush on a star ( $n = 36$ , 8.9%), nearby ( $n = 83$ , 20.5%), pursuing ( $n = 39$ , 9.6%), longing for someone from a past relationship ( $n = 56$ , 13.8%), unequal love ( $n = 85$ , 21%), and equal love ( $n = 105$ , 25.9%).

**Factor analysis.** Numerous principal components factor analyses were conducted on all items measuring qualities that may be distinct to UL relationships. Factor analyses were conducted using all respondents, only respondents in longing for a past lover or in equal and unequal love relationships, and only those in equal and unequal love relationships. In

addition, each of these principal components factor analyses was conducted imposing various constraints on the number of factors extracted. Finally, principal components factor analyses were conducted with both orthogonal (varimax) and oblique (oblimin) rotations. The factor structure was relatively stable across these different analyses.<sup>3</sup> Four items loaded on several different factors in different analyses or they formed idiosyncratic factors; these items were eliminated from additional analyses.

The first factor, Fulfillment ( $\alpha = .91$ ), was composed of 13 items measuring relationship satisfaction (e.g., For me, \_\_\_\_\_ is the perfect romantic partner; I believe a relationship with \_\_\_\_\_ is capable of satisfying me overall, forever). The second factor, Ambivalence ( $\alpha = .83$ ), contained eight items related to both the positive and negative qualities of love (e.g., Sometimes I feel my life would be much better if I didn't love \_\_\_\_\_; but other times \_\_\_\_\_ makes me happy; concerning my relationship with \_\_\_\_\_, I sometimes feel that I can't live with \_\_\_\_\_ and I can't live without \_\_\_\_\_). The third factor, Obsession ( $\alpha = .86$ ), contained six items intended to measure preoccupation with the love object (e.g., I find it hard to concentrate on my work because I can't get \_\_\_\_\_ off my mind; I find myself thinking about \_\_\_\_\_ all the time). The fourth factor, Homogamy ( $\alpha = .85$ ), contained seven items intended to measure perceived similarity between the love object and the respondent (e.g., \_\_\_\_\_ and I are very much alike in many ways; I believe that \_\_\_\_\_ and I could talk about the same things for hours on end). The fifth factor, Knowledge ( $\alpha = .88$ ), contained three items intended to measure perceived knowledge of the love object (e.g., I am aware of \_\_\_\_\_'s shortcomings and faults; I am aware of what kind of person \_\_\_\_\_ is for I know all about his/her past). The final factor, Inferiority ( $\alpha = .67$ ), contained four items intended to measure feelings of inferiority and rejection (e.g., I am afraid \_\_\_\_\_ will reject me in the future; sometimes my relationship with \_\_\_\_\_ makes me feel inferior).

Table 3 shows the correlations between factors. The scales measuring Fulfillment, Obsession, Homogamy, and Knowledge were moderately intercorrelated (average  $r = .46$ ). Inferiority and Ambivalence were correlated, but relatively independent of the other scales.

**Analyses.** To provide comparisons with equal love,  $z$  scores were computed for each scale using the mean and standard deviation of the equal love group on that scale. A two-way MANOVA (Type of relationship  $\times$  Gender) based on all standardized scale scores revealed a significant multivariate main effect for Type of relationship,  $F(30, 1546) = 5.40$ ,  $p < .01$ , Wilks's lambda = .67, and a significant interaction of Gender and Type,  $F(30, 1546) = 1.77$ ,  $p < .01$ , Wilks's lambda = .87.

For the Type of relationship main effect, Table 4 reports the results of the analyses on the significant univariate main effects (all variables except Obsession). The planned contrast

**Table 3.** Correlations Between Factor Scores in Study 1b.

	Fulfillment (1)	Ambivalence (2)	Obsession (3)	Homogamy (4)	Inferiority (5)	Knowledge (6)
2	-.05					
3	.55**	.24**				
4	.65**	-.14**	.44**			
5	-.21**	.61**	.23**	-.18**		
6	.49**	.20**	.26**	.36**	-.06	

\*\* $p < .01$ .

**Table 4.** Means and Contrasts for Types of Relationships in Study 1b.

Type	Fulfillment	Ambivalence	Homogamy	Inferiority	Knowledge
Star	-1.21 <sup>a</sup>	-0.04 <sup>a</sup>	-0.76 <sup>a</sup>	0.56 <sup>a</sup>	-1.38 <sup>a</sup>
Nearby	-1.03 <sup>a</sup>	0.23 <sup>a</sup>	-0.55 <sup>a</sup>	0.99 <sup>a</sup>	-1.04 <sup>a</sup>
Pursued	-1.02 <sup>a</sup>	0.48 <sup>a</sup>	-0.41 <sup>a,b</sup>	1.15 <sup>a</sup>	-0.92 <sup>a,b</sup>
Long for	-0.88 <sup>a</sup>	0.95 <sup>b</sup>	-0.49 <sup>a,b</sup>	1.11 <sup>a</sup>	-0.39 <sup>b,c</sup>
Unequal	-0.69 <sup>a</sup>	0.71 <sup>b</sup>	-0.56 <sup>a</sup>	0.95 <sup>a</sup>	-0.24 <sup>c</sup>
Equal	0.00 <sup>b</sup>	0.00 <sup>a</sup>	0.00 <sup>b</sup>	0.00 <sup>b</sup>	0.00 <sup>c</sup>
Contrast <sup>a</sup>	$t(398) = 7.49^{**}$	$t(398) = -4.20^{**}$	$t(398) = 4.04^{**}$	$t(398) = -7.68^{**}$	$t(398) = 5.64^{**}$
Linear term <sup>b</sup>	$F(1, 398) = 48.94^{**}$	$F(1, 398) = 0.19$	$F(1, 398) = 10.59^{**}$	$F(1, 398) = 22.23^{**}$	$F(1, 398) = 59.34^{**}$
Quadratic term <sup>c</sup>	5.12**	44.90**	1.83	44.78**	0.02

Note. Means in a column with the same subscript are not significantly different at  $p < .01$ , according to Duncan's multiple range test.

<sup>a</sup>Contrast: The average of all unrequited love relationships versus equal love.

<sup>b</sup>Linear term: The linear polynomial for star, nearby, pursued, longed for, and unequal types of relationships.

<sup>c</sup>Quadratic term: The quadratic polynomial for star, nearby, pursued, longed for, and unequal types of relationships.

\*\* $p < .01$ .

**Table 5.** Means for Type by Sex Interactions of Fulfillment and Inferiority in Study 1b.

	Fulfillment		Inferiority	
	Male	Female	Male	Female
Star	-1.42	-1.05	0.60	0.54
Nearby	-1.18	-0.94	1.21	0.85
Pursued	-1.39	-0.44	0.85	1.64
Long for	-0.82	-0.90	1.14	1.10
Unequal	-0.42	-0.87	0.62	1.15
Equal	-0.32	0.15	0.18	-0.09

of equal love to all types of UL showed a significant difference for all measures except Obsession. UL relationships, as a group, demonstrated lower Fulfillment, Homogamy, and Knowledge, but greater Ambivalence and Inferiority. The linear and quadratic trends were calculated across the types of UL relationships. There were dominant linear trends for Fulfillment, Ambivalence, and Knowledge. In addition, there was a significant quadratic trend for Inferiority. Furthermore, Duncan's multiple range tests indicated that, for Ambivalence, crush on a star, loving someone nearby, and equal love were associated with significantly less Ambivalence than the remaining relationships.

Table 5 reports the means for the two significant univariate interactions. In general, male and females responses for Fulfillment were the same except that Duncan multiple range tests revealed that males scored significantly lower than females on Fulfillment when pursuing, and males scored significantly lower on Fulfillment than females when in equal love relationships. For Inferiority, females scored significantly higher than males when pursuing.

### Discussion

Study 1b was designed to detect the presence of several qualities (perceived similarity, perceived knowledge, and obsessiveness) that theorists (e.g., Aron et al., 1998; Noller, 1996; Tennov, 1979) have identified as being distinctive of UL. Some of the items measuring these qualities were revised so that they would apply to the UL relationships. These revisions, if anything, would have allowed respondents more latitude to endorse the item when considering UL relationships.

The results failed to demonstrate that the presence of perceived homogamy and perceived knowledge were distinctive of any type of UL, relative to equal love. Contrary to the predictions associated with limerence (Tennov, 1979), knowledge and obsessiveness were positively, not negatively

correlated and both were positively correlated with fulfillment. In addition, level of obsessiveness was similar in UL relationships and equal love relationships. Thus, the findings for perceived similarity, perceived knowledge, and obsessiveness were not consistent with the presumption that limerence is a dominant characteristic of UL, even when a test of this hypothesis was biased toward confirmation. The results concerning inferiority conceptually replicated those showing that UL relationships were associated with more negative outcomes (e.g., depression, anxiety, poorer well-being) than equal love relationships (Smith & Hokland, 1988).

## Study 2

The experience of love has been described in theories as subsuming a variety of attributes. Love involves passion, intimacy, and commitment (Sternberg, 1986); attachment, caregiving, and sexuality (Shaver et al., 1996; Shaver & Hazan, 1988; Shaver & Mikulincer, 2006); passionate and companionate (Berscheid & Walster, 1978); caring and needing (Kelley et al., 1983); eros, ludus, and storge (Lee, 1973, 1988); and self-enhancement (Aron & Aron, 1986, 1996). The prototype of UL occurs when the imbalance is such that it generates longing, obsession (Tennov, 1979), and “emptiness, anxiety or despair” (Hatfield, 1988, p. 193), qualities not typically associated with romantic love. As most romantic relationships fall short of the ideal (e.g., Sprecher et al., 1998), actual romantic love, including UL, may incorporate these and other negative emotions, even though Baumeister et al. (1993) found that would-be lovers reported more positive than negative emotions.

The most dominant dimension in C. Hendrick and Hendrick’s (1989) analysis of romantic love was passion (Grote & Frieze, 1994). The literature, however, provides contradictory bases for predicting whether UL contains greater, equal, or less passion than equal love. Sternberg’s (1986) theory differentiates equal, consummate love (passion, commitment, and intimacy) from infatuation (passion without commitment and intimacy), suggesting that passion should be high for both types of love.

In contrast, Aron and Aron’s (1986, 1996) self-expansion theory of love suggests that relationship development toward consummate love should show growth of all positive outcomes, such as interdependence, friendship, commitment, and passion. This perspective leads to the expectation that passion increases as the level of interdependence in this type of love relationship increases. Alternatively, limerence (Tennov, 1979) suggests that UL would have a higher level of passion than commensurate love.

While Study 1a measured the intensity of emotional reactions in general and Study 1b measured limerent qualities of love, Study 2 was designed to differentiate the components of consummate and UL, determine how UL might differ from equal love on these dimensions, and determine how these emotions (e.g., passion, intimacy, commitment) varied

for different types of UL relationships. In addition, Study 2 directly tested the assumption that types of UL can be organized by levels of presumed interdependence. Specifically, the level of commitment (a dimension of love and interdependence; Rusbult, 1983; Sternberg, 1986) was expected to be lower for less interdependent types of UL (i.e., crush on someone who is unavailable, crush on someone nearby without initiating a romantic relationship) and highest for unequal love. In addition, all types of UL were expected to show lower levels of commitment than equal love.

Finally, discriminate validity of these dimensions was sought by comparing both types of love relationships with a nonlove relationship (friendship). Davis and Todd (1982) demonstrated that love and friendships have unique characteristics (see also Grote & Frieze, 1994); love was found to have stronger passion, fascination, and sexual desire. However, both relationships provide important social support.

## Method

**Participants.** Respondents were 44 high school students (23 males, 21 females) and 405 university students (135 males, 270 females), aged 16 to 48 years ( $M = 22.5$ ,  $SD = 6.3$ ). University students were given extra credit in a psychology course for their participation.

**Questionnaire.** C. Hendrick and Hendrick (1989) provided a synthesis of the various approaches to measuring love and identify the underlying dimensions inherent in these measures. Their factor structure for scale scores served as a preliminary basis for sampling items from existing scales. Items for the questionnaire were selected from existing scales to represent the following four factors identified in C. Hendrick and Hendrick’s (1989) study: (a) passionate love, intimacy, and commitment; (b) absence of conflict; (c) anxiety, dependency, and jealousy; and (d) friendship. To represent the self-enhancement theory (Aron & Aron, 1986, 1996), some items were also identified and sampled.<sup>4</sup>

The questionnaire also contained Rusbult’s (1983) measure of commitment. Four-item subscales measuring satisfaction, alternatives, and investments were used. Commitment was computed as the following linear combination of relationship satisfaction (RSAT), investments (INV), and alternatives (ALT):  $COMM = RSAT + INV - ALT$ .

**Procedures.** Respondents were presented with descriptions of the types of love relationships from less interdependent to highly interdependent. The next-to-last choice described an equal love relationship and the last choice gave the following description of a friendship: You are in a relationship in which your feelings for the person you have in mind could best be described as a genuine, caring friendship. Respondents were instructed to choose the first description that described a current relationship and complete the questionnaire referring to that relationship. The descriptions were ordered by

**Table 6.** Correlations Between Factor Scores in Study 2.

	Passion (1)	Sacrifice (2)	Turmoil (3)	Dependency (4)	Practical (5)	Commitment (6)
2	.68**					
3	.01	-.17**				
4	.59**	.57**	.10*			
5	.51**	.55**	-.23**	.32**		
6	.62**	.66**	-.27**	.59**	.44**	

\* $p < .05$ . \*\* $p < .01$ .

interdependence to obtain sufficient numbers of persons choosing the less interdependent types of love relationships, assuming that everyone would have a current friendship.

### Results

In spite of the instructions that respondents were to choose the first type of relationship that described a current relationship, crush on a star had a low frequency of being chosen ( $n = 5$ , 1%). The other types produced more proportionate selections: nearby ( $n = 61$ , 12%), pursuing ( $n = 36$ , 7.1%), longing for someone from a past relationship ( $n = 77$ , 15.2%), unequal love ( $n = 68$ , 13.4%), equal love ( $n = 174$ , 34.3%), and friendship ( $n = 86$ , 16.9%).

**Factor analyses.** Numerous principal components factor analyses were conducted on all items except Rusbult's scales. Rusbult's measure was retained separately because it constituted a more direct examination of the hypothesis that the five types of UL were ordered according to the level of interdependence. Factor analyses were conducted using all respondents. However, the entire sample included some persons who completed the questionnaire while referring to a friendship. Having respondents complete the "love" scale while referring to a friendship is useful for purposes of comparison across types of relationships, but is not entirely appropriate for examining the factor structure of a love scale. Therefore, the principal components factor analyses were also conducted excluding respondents in the friendship condition. In addition, respondents in C. Hendrick and Hendrick's research were undergraduates who were asked to refer to their current dating partner or their last dating partner. Because our sample also included respondents who were referring to other types of love relationships, the factor analyses were also conducted for only those respondents who completed the questionnaire for unequal and equal love relationships. In addition, each of these principal components factor analyses was conducted imposing various constraints on the number of factors extracted. Finally, principal components factor analyses were conducted with both orthogonal (varimax) and oblique (oblimin) rotations.

There were some differences in the factor structure across analyses. On some analyses, the first factor split into two factors; however, the correlation between these two subscales

was very high ( $r > .75$ ). Five items loaded on several different factors, depending on the subsample selected and the rotation procedure employed; these 5 items were eliminated from additional analyses. The remaining 50 items demonstrated remarkable consistency in factor structure across analyses.

The factors identified from the analysis of items partially corroborated C. Hendrick and Hendrick's factor structure when they analyzed scale scores. There was a dominant factor (based on all love relationships and varimax rotation, percentage variance = 33.7) that was labeled Passion ( $\alpha = .97$ ) and corresponded to C. Hendrick and Hendrick's first factor (e.g., I melt when I look deeply into \_\_\_\_\_'s eyes; I would rather be with \_\_\_\_\_ than anyone else). The second factor consisted of eight items and was labeled Sacrifice ( $\alpha = .90$ , for example, If I were going through a difficult time, I would put away my own concerns to help \_\_\_\_\_ out; I would do almost anything for \_\_\_\_\_). This factor does not correspond to any of C. Hendrick and Hendrick's factors (Agape loaded on their first factor). The third factor extracted contained seven items dealing with turmoil and tension ( $\alpha = .83$ , for example, Sometimes I feel that loving \_\_\_\_\_ have changed me for the worse; There is tension in my relationships with \_\_\_\_\_). The fourth factor was composed of five items creating an index of Dependency ( $\alpha = .83$ , for example, It would be hard for me to get along without \_\_\_\_\_ in my life; I believe that \_\_\_\_\_ is almost completely responsible for my feelings of sadness and happiness). Another factor, Practical, was composed of three items ( $\alpha = .50$ , for example, I consider a relationship with \_\_\_\_\_ would reflect favorably on my career; I believe an important factor in choosing a partner is whether or not he/she would be a good parent). Although the reliability was low, because the score was based on only three items, it was included in subsequent analyses.

Rusbult's 12-item measure of commitment (4 items each for satisfaction, alternatives, and investments) had a coefficient alpha of .87.

Table 6 reports the correlations between the factor scores, computed with unit weighting. In general, the scores were moderately correlated with each other, with the exception of Turmoil. The average of the absolute values of the correlations of other variables and Turmoil was .12, whereas the average of the absolute values of the correlations of the other variables with each other was .55.

**Table 7.** Means and Contrasts for Types of Relationships in Study 2.

Type	Passion	Sacrifice	Turmoil	Dependency	Practical	Commitment
Nearby	-2.08 <sup>a</sup>	-2.35 <sup>a</sup>	0.67 <sup>a</sup>	-1.32 <sup>a</sup>	-1.23 <sup>a</sup>	-3.37 <sup>a</sup>
Pursued	-1.53 <sup>b</sup>	-1.91 <sup>a,b</sup>	1.09 <sup>a</sup>	-1.28 <sup>a</sup>	-0.67 <sup>a</sup>	-2.88 <sup>a,b</sup>
Long for	-1.27 <sup>b</sup>	-1.79 <sup>a,b</sup>	2.49 <sup>b</sup>	-0.66 <sup>b</sup>	-0.99 <sup>a</sup>	-2.09 <sup>c,d</sup>
Unequal	-1.25 <sup>b</sup>	-1.17 <sup>a</sup>	2.16 <sup>b</sup>	-0.43 <sup>b</sup>	-1.02 <sup>a</sup>	-1.71 <sup>d</sup>
Equal	0.01 <sup>b</sup>	0.01 <sup>c</sup>	0.00 <sup>c</sup>	0.01 <sup>c</sup>	0.01 <sup>b</sup>	0.00 <sup>e</sup>
Friendship	-3.66 <sup>c</sup>	-1.77 <sup>a,b</sup>	0.12 <sup>a,c</sup>	-1.30 <sup>a</sup>	-1.10 <sup>a</sup>	-2.36 <sup>b,c</sup>
Contrast 1 <sup>a</sup>	$t(442) = -11.4^{**}$	$t(442) = -1.8$	$t(442) = -6.7^{**}$	$t(442) = -4.60^{**}$	$t(442) = -2.1^*$	$t(442) = -2.1^*$
Contrast 2 <sup>b</sup>	$t(442) = 15.8^{**}$	$t(442) = 9.0^{**}$	$t(442) = -1.1$	$t(442) = 9.7^{**}$	$t(442) = 6.6^{**}$	$t(442) = 13.0^{**}$
Contrast 3 <sup>c</sup>	$t(442) = 8.7^{**}$	$t(442) = 12.0^{**}$	$t(442) = -11.5^{**}$	$t(442) = 9.0^{**}$	$t(442) = 7.7^{**}$	$t(442) = 18.1^{**}$
Linear term <sup>d</sup>	$F(1, 213) = 7.05^{**}$	$F(1, 213) = 14.2^{**}$	$F(1, 213) = 44.6^{**}$	$F(1, 213) = 29.3^{**}$	$F(1, 213) = 0.3$	$F(1, 213) = 45.3^{**}$

Note. Means in a column with the same subscript are not significantly different at  $p < .01$ , according to Duncan's multiple range test.

<sup>a</sup>Contrast 1: The average of all love relationships versus friendship.

<sup>b</sup>Contrast 2: Equal love versus friendship.

<sup>c</sup>Contrast 3: The average of all unrequited love relationships versus equal love.

<sup>d</sup>Linear term: The linear polynomial for nearby, pursued, longed for, and unequal types of relationships.

\* $p < .05$ . \*\* $p < .01$ .

**Analyses.** To provide a comparison with equal love,  $z$  scores were created for each scale extracted by the factor analysis using the mean and standard deviation of the equal love group. Because of the small size of the group describing a crush on a star, this group was deleted from all inferential analyses.

The MANOVA based on all scales found a significant multivariate main effect for Type of relationship,  $F(30, 1726) = 21.91, p < .01$ , Wilks's lambda = .28. Three planned comparisons were computed for each significant univariate type of relationship main effect. First, the average of all types of love relationships was compared with friendship. Second, equal love was compared with friendship. Third, the average of all types of UL relationships was compared with equal love. In all cases, except Turmoil and Sacrifice (see Table 7), each contrast was significant. The lack of significance for the first contrast on Sacrifice indicates that love, in general, and friendships both involve similar amounts of sacrifice, although the types of love differed. The lack of significance for the second contrast on Turmoil indicates that the level of Turmoil was similar in friendships and equal love relationships, but it was significantly lower than that in UL relationships.

To evaluate the rationale for ordering types of UL on a continuum of interdependence, the linear trend was calculated for the types of UL relationships (equal love was not included in these analyses; when it was included, the linear trends were more pronounced). The linear trend was significant for each of the dependent variables except Practical (see Table 4).

## Discussion

The primary purpose of Study 2 was to identify similarities and differences between types of love relationships and

friendships on dimensions of love. UL was found to be quite distinct from equal love in terms of the intensity of each component of love. On each of the positive dimensions (passion, sacrifice, dependency, commitment, and practical love), UL relationships as a group reported less intense feelings and beliefs, which corroborates and expands on the findings of Study 1a. In addition, the most interdependent type of UL (unequal love) showed significantly more passion, sacrifice, dependency, and commitment than did the least interdependent type (loving someone who is nearby), again supporting the conceptual ordering of UL relationships on the presumed dimension of interdependency.

If infatuation is a characteristic of the less interdependent forms of UL (e.g., S. S. Hendrick & Hendrick, 1992), then passion should have been high for all types of UL (Sternberg, 1986). However, a significant linear component was found across the four types of UL, such that persons in the more interdependent types reported higher levels of passion. Unbridled passion, then, is not uniformly experienced in all forms of UL (Regan, 1998). Nor is there evidence that actual relationships supply "reality constraints" that reduce passion (Murray et al., 1996; Tesser & Paulus, 1976). This finding is also consistent with earlier results that failed to support predictions about limerence (Study 1b).

However, the experience of love is not limited to just positive feelings. Interestingly, the most significant deviation from the pattern of correlated factors was for Turmoil, which suggests that such negative feelings can coexist with various levels of positive feelings (cf. Berscheid & Walster, 1978). Furthermore, these negative feelings (turmoil) were more evident in UL than in either equal love or friendships. However, turmoil was more evident in more interdependent than in less interdependent types of UL. Thus, the less interdependent forms of UL provide not only low positive emotional payoffs (e.g., passion) but also fewer emotional costs

(e.g., turmoil) than attempting to start a relationship and doing so with difficulty.

The propositions that greater interdependence (with its higher levels of frequency, diversity, interaction, influence, and behavioral control) exists in the more interdependent types of UL relationships and leads to greater levels of passion, dependency, practical love, and commitment were supported. However, to the extent that the types are viewed as a progression toward equal romantic love, there were increasing costs (turmoil) as a love relationship became more interdependent (Regan, 1998).

The results also provide evidence of discriminant validity for these dimensions of love. In comparison with equal love, individuals who completed the questionnaire for a friendship scored significantly lower on all dimensions except Turmoil (Davis & Todd, 1982). In addition, all types of love (equal and unrequited) were rated significantly higher than friendship on all dimensions except Sacrifice.

## General Discussion

With few exceptions (e.g., Aron & Aron, 1991; Aron et al., 1998; Baumeister et al., 1993; K. K. Dion & Dion, 1975; Hill et al., 1997), empirical research on romantic love has neither differentiated UL nor studied it as a separate construct. Kelley (1983/2002) has noted that there can be no single theory of love, and different kinds of love warrant different theories. Sternberg and Weis's (2006) compendium of research on love does not have UL in the index and authors generally fail to differentiate UL as a type of love (with the exception of cursory mention of infatuation, lust, and incomplete love). However, Berscheid (2010) contended that confusion around the conceptualization of love and clear differentiation of love is necessary for enhancing the quality of research on love. The current research demonstrates the high prevalence of UL, relative to equal love, and the distinctive nature of UL (e.g., emotional and behavioral manifestation). Furthermore, the results demonstrate that the causes and consequences of UL warrant separate theoretical and empirical treatment (Berscheid, 2006, 2010).

Previous attempts to describe and understand the nature of UL have found placing analyses of love within a comparative context useful. Baumeister et al. (1993) chose to compare the experiences of the enamored with the experiences of the person being pursued. Hill et al. (1997) compared frequencies of UL with mutual love. Aron and Aron (1991) differentiated three types of UL (secret, jilted, and hanger on) and compared them within the context of self-expansion theory, and Aron et al. (1998) analyzed how strengths of three motives were related to the intensity of UL for persons with different adult romantic attachment styles. The current research expanded on these research strategies by differentiating five types of UL that are assumed to be conceptually organized in terms of interdependence, and then measured their prevalence, emotional experiences in

general, emotional experiences common to romantic love, and experiences assumed to be unique to UL. Several findings support the conceptualization of different types of UL based on levels of presumed interdependence. Study 1a showed that the more interdependent types of UL relationships elicited reports of greater intensity and were longer in duration (Berscheid & Ammazalorso, 2001). In Study 1b, less interdependent types of UL were less fulfilling than more interdependent types of UL and persons involved in UL love relationships with less interdependence were less knowledgeable about the partner than those in more interdependent love relationships. Study 2 provided additional support for the distinction by demonstrating that more interdependent UL relationships were characterized by more commitment, dependency, passion, and sacrifice.

This research expanded on Baumeister et al.'s (1993) research by comparing the reported experiences of those in different types of UL relationships with the reported experiences of persons in equal love (Studies 1a, 1b, and 2) and friendship relationships (Study 2). This research expanded on Hill et al.'s (1997) study by comparing five different types of UL and equal love on not just frequencies but also intensities of various emotions (e.g., passion) and beliefs (e.g., commitment). These different research strategies begin a process of triangulation from which a greater understanding of the nature of UL can proceed.

For example, Baumeister et al. (1993) found that the enamored reported more positive feelings than did the rejecters. Lemieux and Hale (1999) found passion and intimacy to be stronger than commitment in young dating adults. The current research found that the enamored in all five types of UL relationships reported less intense positive feelings than did those in equal love relationships (Hill et al., 1997, did not report results on intensity). These results are inconsistent with the assumption that UL is a euphoric type of love in which the enamored reaps some of the benefits of being in love (the feelings of excitement, passion, lust, identification, distortions of presumed similarity) unencumbered by the costs and hassles of a real romantic relationship (cf. Baumeister et al., 1993; Murray et al., 1996; Tesser & Paulus, 1976). These results are also inconsistent with the assumption that the distortion, imagination, and fantasies of UL provide exaggerated benefits (and very high costs such as suffering) that approximate or exceed those reported in consummate love relationships (Murray et al., 1996; Tennov, 1979). If these states do exist in UL, then the retrospective accounts suggest that they are more ephemeral than or not as salient as equal love relationships. Real love may not be a state of unqualified bliss; however, this research shows that UL is inferior to equal love on positive qualities and is not a good approximation of it.

Baumeister et al. (1993) also found that the enamored reported less intense negative feelings than did rejecters in UL. The current research found that the enamored in UL relationships generally experienced more intense negative

feelings than did those in equal love relationships. Thus, these results are inconsistent with speculation that UL avoids certain costs that are embedded in equal love relationships (e.g., Baumeister & Wotman, 1992). However, these results are consistent with the portrayals that those in UL relationships suffer from turmoil, suffering, ambivalence, misery, and pain (Smith & Hokland, 1988).

UL, then, is not a fulfilling emotional state, circumstance, or relationship that provides the benefits of love at low costs to the enamored. At best, it provides small rewards at some costs. Furthermore, as the type becomes more interdependent and rewards increase, so do the costs until equal love occurs or the relationship is terminated (Arriaga, 2001; Regan, 1998). This picture of UL highlights its paradoxical nature. From the point of view of exchange theory, relationships with this status (low fulfillment, moderate costs) should be infrequent, unstable, and ephemeral. Indeed, UL relationships were found to be of somewhat shorter duration. Yet, UL relationships persisted and occurred with a much higher cumulative frequency than consummate love. Why? There are at least three ways to understand why UL is so prevalent and is tolerated by many persons: (a) imperfect practice, (b) errors in the education of attention (Gibson, 1966), and (c) incentive.

The research started with the question, "Is UL a type of love?" In many ways, UL did not measure up to consummate love. However, this research demonstrates that UL does provide some of the experiences of love that are not realized in friendships. Aron et al. (1998) found that the intensity of UL was related to the desire to be in love. Thus, one of the motives for pursuing romantic relationships and allowing UL relationships to persist is that they provide the person with "practice at being in love." The one characteristic on which UL was indistinguishable from equal love was obsessiveness. UL does provide the enamored with the opportunity to think about a relationship with the love object and what the person would, for example, do and what they would talk about. The costs for this cognitive practice and preparation are comparatively high, particularly when one acts on these emotions (Baumeister et al., 1993); but emotional returns from an UL relationship may be better than no romantic relationship (Aron et al., 1998).

The matching hypothesis predicts that phenotypically similar persons are more likely to bond (Berscheid & Reis, 1998). This pattern of positive assortative mating is found to generalize to various types of relationships (friendships, dating, marriages), is found for a wide range of characteristics (e.g., physical, demographic, social-psychological), and is consistent with numerous theoretical perspectives (e.g., Buss, 1994; Price & Vandenberg, 1980). Social psychologists have frequently assumed that the matching hypothesis is caused by a preference for similarity because similarity is rewarding (e.g., Berscheid & Reis, 1998). Thus, individuals seek out similar others because they prefer similar others. The matching hypothesis rests on the presumption that

individuals develop a means for accurately evaluating the desirability of self and others and selecting another who matches (e.g., Berscheid & Reis, 1998). Thus, the evaluation of attributes and matching on those attributes are probably acquired skills, and errors would be made in learning these skills (Barelds & Barelds-Dijkstra, 2007; Epstude & Forster, 2011). Some instances of UL may then be evidence of those errors. If so, then UL may occur before persons develop a good sense of self-knowledge, self-appraisal, and the "education of attention" (Gibson, 1966) that is necessary to evaluate others (Neff & Karney, 2006).<sup>5</sup>

Lykken and Tellegen (1993) presented provocative data to support the position that similarity does no more than eliminate 50% of the pool of potential mates. Within the remaining 50% "mate-worthy" group, bonding is, according to them, unpredictable, adventitious, and dependent on idiosyncratic factors that foster reciprocation. This suggests that lust, infatuation, and crushes (Shaver et al., 1996) are generalized responses that can be easily evoked by a sizable portion of potential romantic partners. Consistent with this, the type of UL with the highest prevalence was having romantic feelings for someone nearby (Hill et al., 1997). This is consistent with Lykken and Tellegen's contention that adolescence may be a critical period predisposed toward infatuation, which produces a wide array of internal responses (sexual fantasies, behavioral intentions) and external responses (glances, conversations, propositions, proposals). Lust, then, can be viewed as a fundamental drive with unique biological components (Fisher, 2006).

As previously mentioned, the results describe UL as a relationship providing low rewards at relatively high costs. Thus, the frequency and persistence of UL may be better understood in terms of its long-term promise for outcomes rather than in terms of immediate payoffs (e.g., Aron & Aron, 1996). As the song warns, "you're nobody 'til somebody loves you," that message represents a powerful motivator if persons believe that they are fundamentally deficient without love and that they can only become whole through love. Thus, the plight of enamored persons, particularly in the more interdependent types of UL, is partially understood not in terms of the immediate net payoffs (e.g., positive and negative feelings, personal and interpersonal fulfillment) in their relationships but in terms of the incentive value of potential payoffs as love increases in a relationship (Sprecher, 1999). Indeed, Aron et al. (1998) demonstrated that the perceived desirability or value of the potential romantic relationship, the perceived probability of having a romantic relationship, and desirability of the state or benefits to the self of the potential relationship were each independently important for understanding the motivation to enter and maintain a UL relationship. For the enamored, pursuing the relationship is a high-stakes gamble in which the potential for high payoffs justifies the use of unscrupulous tactics along with the risks of failure, embarrassment, and lowered self-esteem (Baumeister et al., 1993).

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research and/or authorship of this article.

## Notes

1. The same participants from Study 1a with 100 additional high school students (who did not complete the measures from Study 1a) completed several other measures of romantic relationships at a separate time. Because of the addition of new participants and the change in focus of the research questions examined in these later questionnaires, these results are presented as part of a related study.
2. The following items were utilized in the questionnaire and subsequent factor analyses: Hatfield and Sprecher's (1986) Passionate Love Scale (12, 15, 21R), Sternberg's Triangular Theory of Love Scale (5R, 7 11R, 12R, 45R), Rusbult's (1983) Commitment Scale, Davis and Latty-Mann's (1987) Relationship Rating Scale (18R, 19R, 20R, 33R, 54R, 55R), Aron, Dutton, Aron, and Allen's (1989) measure of love as self-enhancement (1R, 5R), and C. Hendrick and Hendrick's (1986) Love Attitudes Scale (7R, 17R, 19R, 23R, 28R, 29R, 47). The "R" behind an item number indicates that the item was revised. This also applies to Study 2. Items were revised so that they were in the same format and so that they could reasonably apply to all types of love relationships as well as equal love relationships. For example, Sternberg's item 45 was changed from "I fantasize about my partner" to "I frequently fantasize about taking part in romantic activities with \_\_\_\_." In addition, 13 original items were included in the questionnaire to provide additional measures of each domain. All survey items are available from the first author.
3. To conserve space, the items that loaded on each factor, in this study or in Study 2, are not presented but can be obtained from the first author.
4. The following items were sampled and submitted to factor analyses: Hatfield and Sprecher's (1986) Passionate Love Scale (2R, 3, 6, 7, 10, 11, 12, 13, 14, 15, 16, 18, 23R, 25R, 26R, 28, 30), Hatfield, Brinton, and Cornelius's (1989) Juvenile Love Scale (12), Davis and Latty-Mann's (1987) Relationship Rating Scale (3R, 19R, 33R, 49R, 50R, 53R, 54R), Rubin's (1970) Love Scale (4, 6, 8, 13R), Sternberg's Triangular Theory of Love Scale (as cited in C. Hendrick & Hendrick, 1989; 45R), Aron et al.'s (1989) measure of love as self-enhancement (5R, 23, I-R, Q-R), and C. Hendrick and Hendrick's (1986) Love Attitudes Scale (7R, 11R, 12R, 19R, 23R, 24R, 28, 29R, 30R, 34R, 42R, 43R, 47R). As in Study 1a, items were revised so that they could reasonably apply to all types of unrequited love relationships as well as equal love relationships. Four original items were included to measure dependency, anxiety, and jealousy. All survey items are available from the first author.
5. An alternative explanation for the failure of age-dependent effects to appear more prominently is that the matching hypothesis is either incorrect or of limited importance in the

mate selection criteria (see Price & Vandenberg, 1980) or the criteria for appraising the desirability of the self and others changes with age.

## References

- Aron, A., & Aron, E. N. (1986). *Love and the expansion of self: Understanding attraction and satisfaction*. New York, NY: Hemisphere.
- Aron, A., & Aron, E. N. (1991, May). *Motivational structures of types of unrequited love*. Paper presented at the Third International Network Conference on Personal Relationships, Normal, IL.
- Aron, A., & Aron, E. N. (1996). Self and self-expansion in relationships. In G. Fletcher & J. Fitness (Eds.), *Knowledge structures in close relationships: A social psychological approach* (pp. 325-344). Mahwah, NJ: Lawrence Erlbaum.
- Aron, A., Aron, E. N., & Allen, J. (1998). Motivation for unreciprocated love. *Personality and Social Psychology Bulletin*, *24*, 787-796.
- Aron, A., Dutton, D. G., Aron, E. N., & Iverson, A. (1989). Experiences of falling in love. *Journal of Social and Personal Relationships*, *6*, 243-257.
- Arriaga, X. B. (2001). The ups and downs of dating: Fluctuations in satisfaction in newly formed romantic relationships. *Journal of Personality and Social Psychology*, *80*, 754-765.
- Barelds, D. P. H., & Barelds-Dijkstra, P. (2007). Love at first sight or friends first? Ties among partner personality trait similarity, relationship onset, relationship quality, and love. *Journal of Social and Personal Relationships*, *24*, 479-496.
- Baumeister, R. F., & Wotman, S. R. (1992). *Breaking hearts: The two sides of unrequited love*. New York, NY: Guilford Press.
- Baumeister, R. F., Wotman, S. R., & Stillwell, A. M. (1993). Unrequited love: On heartbreak, anger, guilt, scriptlessness, and humiliation. *Journal of Personality and Social Psychology*, *64*, 377-394.
- Berscheid, E. (2006). Searching for the meaning of "love.": In R. J. Sternberg & K. Weis (Eds.), *The new psychology of love* (pp. 171-183). New Haven, CT: Yale University Press.
- Berscheid, E. (2010). Love in the fourth dimension. *Annual Review of Psychology*, *61*, 1-25.
- Berscheid, E., & Ammazzalorso, H. (2001). Emotional experience in close relationships. In M. Hewstone & M. Brewer (Eds.), *Blackwell handbook of social psychology* (Vol. 2, pp. 308-330). Oxford, UK: Blackwell.
- Berscheid, E., & Meyers, S. A. (1996). A social categorical approach to a question about love. *Personal Relationships*, *3*, 19-43.
- Berscheid, E., & Reis, H. T. (1998). Attraction and close relationships. In D. Gilbert & S. T. Fiske (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 193-281). New York, NY: McGraw-Hill.
- Berscheid, E., Snyder, M., & Omoto, A. M. (2004). Measuring closeness: The Relationship Closeness Inventory (RCI) revisited. In D. J. Mashek & A. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 81-100). Mahwah, NJ: Lawrence Erlbaum.
- Berscheid, E., & Walster, E. (1978). *Interpersonal attraction* (2nd ed.). Reading, MA: Addison-Wesley.
- Brehm, S. S. (1992). *Intimate relationships* (2nd ed.). New York, NY: McGraw-Hill.

- Buss, D. M. (1994). *The evolution of desire: Strategies of human mating*. New York, NY: Basic Books.
- Byrne, D. (1971). *The attraction paradigm*. New York, NY: Academic Press.
- Cate, R. M., & Lloyd, S. A. (1992). *Courtship*. Newbury Park, CA: SAGE.
- Cohen, J., & Cohen, P. (1975). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum.
- Davis, K. E., Ace, A., & Andra, M. (2002). Stalking perpetrators and psychological maltreatment of partners: Anger-jealousy, attachment, insecurity, need for control, and break-up context. In K. E. Davis, I. H. Frieze, & R. D. Maiuro (Eds.), *Stalking: Perspective on victims and perpetrators* (pp. 407-425). New York, NY: Springer.
- Davis, K. E., & Latty-Mann, H. (1987). Love styles and relationship quality: A contribution to validation. *Journal of Social and Personal Relationships*, 4, 409-428.
- Davis, K. E., & Todd, M. J. (1982). Friendship and love relationships. In K. E. Davis (Ed.), *Advances in descriptive psychology* (Vol. 2, pp. 79-122). Greenwich, CT: JAI.
- Dion, K. K., & Dion, K. L. (1975). Self-esteem and romantic love. *Journal of Personality*, 43, 39-57.
- Epstude, K., & Forster, J. (2011). Seeing love or seeing lust? How people interpret ambiguous romantic situations. *Journal of Experimental Social Psychology*, 47, 1017-1020.
- Fehr, B. (1988). Prototype analysis of the concepts of love and commitment. *Journal of Personality and Social Psychology*, 55, 557-579.
- Fehr, B. (1994). Prototype-based assessment of laypeople's views of love. *Personal Relationships*, 1, 309-331.
- Fehr, B. (2006). A prototype approach to studying love. In R. J. Sternberg & K. Weis (Eds.), *The new psychology of love* (pp. 225-246). New Haven, CT: Yale University Press.
- Ferris, K. O. (2001). Through a glass, darkly: The dynamics of fan-celebrity encounters. *Symbolic Interaction*, 24, 25-47.
- Fisher, H. (2004). *Why we love: The nature and chemistry of romantic love*. New York, NY: Henry Holt.
- Fisher, H. (2006). The drive to love: The neural mechanism for mate selection. In R. J. Sternberg & K. Weis (Eds.), *The new psychology of love* (pp. 87-115). New Haven, CT: Yale University Press.
- Fiske, V., & Peterson, C. (1991). Love and depression: The nature of depressive romantic relationships. *Journal of Social & Clinical Psychology*, 10, 75-90.
- Frijda, N. H., Ortony, A., Sonnemans, J., & Clore, G. L. (1992). The complexity of intensity: Issues concerning the structure of emotion intensity. In M. S. Clark (Ed.), *Review of personality and social psychology*. Vol. 13: *Emotion* (pp. 60-89). Newbury Park, CA: SAGE.
- Gibson, J. J. (1966). *The senses considered as perceptual systems*. Boston, MA: Houghton Mifflin.
- Grote, N. K., & Frieze, I. H. (1994). The measurement of friendship-based love in intimate relationships. *Personal Relationships*, 1, 275-300.
- Hatfield, E. (1988). Passionate and companionate love. In R. J. Sternberg & M. L. Barnes (Eds.), *The psychology of love* (pp. 191-217). New Haven, CT: Yale University Press.
- Hatfield, E., Brinton, C., & Cornelius, J. (1989). Passionate love and an anxiety in young adolescents. *Motivation and Emotion*, 13, 271-289.
- Hatfield, E., & Sprecher, S. (1986). Measuring passionate love in intimate relations. *Journal of Adolescence*, 9, 383-410.
- Hendrick, C., Hendrick, S., Foote, F. H., & Slapion-Foote, M. J. (1984). Do men and women love differently? *Journal of Social and Personal Relationships*, 1, 177-195.
- Hendrick, C., & Hendrick, S. S. (1986). A theory and method of love. *Journal of Personality and Social Psychology*, 50, 392-402.
- Hendrick, C., & Hendrick, S. S. (1989). Research on love: Does it measure up? *Journal of Personality and Social Psychology*, 56, 784-794.
- Hendrick, C., & Hendrick, S. S. (2006). Styles of romantic love. In R. J. Sternberg & K. Weis (Eds.), *The new psychology of love* (pp. 149-170). New Haven, CT: Yale University Press.
- Hendrick, S. S., & Hendrick, C. (1992). *Romantic love*. Thousand Oaks, CA: SAGE.
- Hill, C. A., Blakemore, J. E. O., & Drumm, P. (1997). Mutual and unrequited love in adolescence and young adulthood. *Personal Relationships*, 4, 15-23.
- Hill, C. T., Rubin, Z., & Peplau, L. A. (1976). Breakups before marriage: The end of 103 affairs. *Journal of Social Issues*, 32(1), 147-167.
- Kelley, H. H. (2002). Love and commitment. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson (Eds.), *Close relationships* (pp. 265-314). Clinton Corners, NY: Percheron. (Original work published 1983)
- Kelley, H. H., Berscheid, E., Christensen, A., Harvey, J. H., Huston, T. L., Levinger, G., & Peterson, D. R. (1983). *Close relationships*. New York, NY: Freeman.
- Kelley, H. H., Holmes, J. G., Kerr, N. L., Reis, H. T., Rusbult, C. E., & Van Lange, P. A. M. (2003). *An atlas of interpersonal situations*. New York, NY: Cambridge University Press.
- Lamm, H., & Wiesmann, U. (1997). Subjective attributes of attraction: How people characterize their liking, their love, and their being in love. *Personal Relationships*, 4, 271-284.
- Lee, J. A. (1973). *The colors of love: An exploration of the ways of loving*. Don Mills, Ontario, Canada: New Press.
- Lee, J. A. (1988). Love-styles. In R. J. Sternberg & M. L. Barnes (Eds.), *The psychology of love* (pp. 38-67). New Haven, CT: Yale University Press.
- Lemieux, R., & Hale, J. L. (1999). Intimacy, passion, and commitment in young romantic relationships: Successfully measuring the triangular theory of love. *Psychological Reports*, 85, 497-503.
- Levinger, G., & Snoek, D. (1972). *Attraction in relationship: A new look at interpersonal attraction*. Morristown, NJ: General Learning Press.
- Lykken, D. T., & Tellegen, A. (1993). Is human mating adventurous or the result of lawful choice? A twin study of mate selection. *Journal of Personality and Social Psychology*, 65, 56-68.
- Meloy, J. R., & Fisher, H. E. (2005). Some thoughts on the neurobiology of stalking. *Journal of Forensic Sciences*, 50, 1472-1480.

- Money, J. (1980). *Love and love sickness: The science of sex, gender difference, and pair-bonding*. Baltimore, MD: Johns Hopkins University Press.
- Montoya, R. M., Horton, R. S., & Kirchner, J. (2008). Is actual similarity necessary for attraction? A meta-analysis of actual and perceived similarity. *Journal of Social and Personal Relationships, 25*, 889-922.
- Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The benefits of positive illusions: Idealization and the construction of satisfaction in close relationships. *Journal of Personality and Social Psychology, 70*, 79-98.
- Murray, S. L., Holmes, J. G., Griffin, D. W., Bellavia, G., & Rose, P. (2001). The mismeasure of love: How self-doubt contaminates relationship beliefs. *Personality and Social Psychology Bulletin, 27*, 423-436.
- Neff, L. A., & Karney, B. R. (2006). To know you is to love you: The implications of global adoration and specific accuracy for marital relationships. *Journal of Personality and Social Psychology, 88*, 480-497.
- Noller, P. (1996). What is this thing called love? Defining the love that supports marriage and family. *Personal Relationships, 3*, 97-115.
- Price, R. A., & Vandenberg, S. G. (1980). Spouse similarity in American and Swedish couples. *Behavior Genetics, 10*, 59-71.
- Regan, P. C. (1998). Of lust and love: Beliefs about the role of sexual desire in romantic relationships. *Personal Relationships, 5*, 139-157.
- Rubin, Z. (1970). Measurement of romantic love. *Journal of Personality and Social Psychology, 16*, 265-273.
- Rubin, Z. (1973). *Liking and loving*. New York, NY: Holt, Rinehart & Winston.
- Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology, 45*, 101-117.
- Shaver, P. R., & Hazan, C. (1988). A biased overview of the study of love. *Journal of Social and Personal Relationships, 5*, 473-501.
- Shaver, P. R., & Mikulincer, M. (2006). A behavioral systems approach to romantic love relationships: Attachment, caregiving, and sex. In R. J. Sternberg & K. Weis (Eds.), *The new psychology of love* (pp. 35-64). New Haven, CT: Yale University Press.
- Shaver, P. R., Morgan, J. J., & Wu, S. (1996). Is love a "basic" emotion? *Personal Relationships, 3*, 81-96.
- Smith, D. F., & Hokland, M. (1988). Love and salutogenesis in late adolescence: A preliminary analysis. *Psychology: A Journal of Human Behavior, 25*, 44-49.
- Spitzberg, B., & Cupach, W. (2007, May). *Fanning the flames of fandom: Celebrity worship, parasocial interaction, and stalking*. Paper presented at the International Communication Conference, San Francisco, CA.
- Sprecher, S. (1999). "I love you more today than yesterday": Romantic partners' perceptions of changes in love and related affect over time. *Journal of Personality and Social Psychology, 76*, 46-53.
- Sprecher, S., Felmlee, D., Metts, S., Fehr, B., & Vanni, D. (1998). Factors associated with distress following the breakup of a close relationship. *Journal of Social and Personal Relationships, 15*, 791-809.
- Sternberg, R. J. (1986). A triangular theory of love. *Psychological Review, 93*, 119-135.
- Sternberg, R. J., & Weis, K. (Eds.). (2006). *The new psychology of love*. New Haven, CT: Yale University Press.
- Tennov, D. (1979). *Love and limerence: The experience of being in love*. New York, NY: Stein & Day.
- Tesser, A., & Paulus, D. L. (1976). Toward a causal model of love. *Journal of Personality and Social Psychology, 34*, 1095-1105.
- Wegner, D. M., & Gold, D. B. (1995). Fanning old flames: Emotional and cognitive effects of suppressing thoughts of a past relationship. *Journal of Personality and Social Psychology, 68*, 782-792.

### Author Biographies

**Robert G. Bringle** is the Kulynych/Cline Visiting Distinguished Professor of Psychology at Appalachian State University. His scholarly interests include conducting research on close relationships as well as student and faculty attitudes and motives, educational outcomes, institutionalization, and assessment and measurement issues associated with service learning and community engagement in higher education.

**Terri Winnick** is Associate Professor of Sociology at the The Ohio State University, Mansfield campus. Her scholarly interests include the sociology of criminology and medical issues.

**Robert J. Rydell** is Assistant Professor in the Department of Psychological and Brain Sciences at Indiana University. His scholarly interests include conducting research on attitude formation, understanding the bases underlying stereotype-based performance decrements, and examining implicit and explicit approaches to attitude measurement.